



United States Department of Agriculture
Natural Resources Conservation Service
April 2006

CSP Activity Sheet ESM-40

Soil Conditioning Index (SCI)

Spring Watershed

Conservation Security Program (CSP)

Soil Management Enhancement

Improve soil conditioning and quality by implementing conservation measures that result in a Soil Conditioning Index of at least 0.1.

CSP Payment: The SCI is calculated using an NRCS tool called RUSLE2 (revised universal soil loss equation). Payment is based on the SCI calculation as follows:

Soil Conditioning Index	Payment rate (\$/ac/year)
<0.1 (SCI must be positive to be eligible for CSP)	\$0
0.1-0.3	\$2.32
0.4-0.6	\$5.80
0.7-0.9	\$9.28
1.0-1.2	\$12.76
1.3-1.5*	\$16.24
1.6-1.8*	\$19.72
1.9-2.1*	\$23.20
2.1-2.4*	\$26.68
2.5 or greater*	\$29.00

* Not applicable for pasture land. Pasture land SCI payment is capped at 1.0 SCI

Documentation Required for Payment: (See example entry in documentation table on page 2)

- Crop and tillage sequence to achieve the improvement in the soil condition Index (SCI) are shown on the RUSLE2 Worksheet Erosion Calculation Record, included in the conservation plan, for each field or set of similar fields.
- Complete the following table to show tracts and acres on which the crop and tillage sequence to improve the SCI is implemented. Document use of tools such as subsoilers and anhydrous applicators. An example is provided to assist you.
- “Lump” fields together if they have the same treatment (same previous and current crop, tillage equipment used, and number of passes)
- For pasture or hay complete at least the first four columns. The exception is if the pasture or hay is “broken” out. In this case list the operations used.
- Assure NRCS has an aerial photo that correlates with the field numbers listed.

CSP enhancements must be included in the CSP CCC-1200 Conservation Program Contract to be eligible for payment. CSP participants must maintain records and information to document compliance with their CSP Contract and requirements of CSP. CSP participants should review their CCC-1200 and CCC-1200 Appendix for their CSP enhancement application schedule details.

CSP Enhancements earnings are subject to payment caps and that actual payments will depend on the CSP Tier level, the land area affected, and the number of activities.

It is the CSP participant's responsibility to obtain all necessary permits and to comply with all laws, regulations and ordinances pertaining to the application of CSP activities.

Details of Enhancement Activity and Requirements: The Soil Conditioning Index (SCI) is a tool that can predict the consequences of cropping systems and tillage practices on the trend of soil organic matter. Organic matter is a primary indicator of soil quality and an important factor in carbon sequestration and global climate change.

The SCI has three main components:

- 1) The amount of organic material returned to or removed from the soil;
- 2) The effects of tillage and field operations on organic matter decomposition; and
- 3) The effect of predicted soil erosion associated with the management system. The SCI gives an overall rating based on these components. If the rating is a negative value, the system is predicted to have declining soil organic matter. If the rating is a positive value, the system is predicted to have increasing soil organic matter.

The SCI is a quick way to characterize the organic matter dynamics of a farming system. Organic matter is a critical component of soil function for several reasons. Surface residue protects soil from the impact of rain and wind. As residue decays, it feeds microbes that improve soil structure and infiltration, and thus reduces runoff. Soil organic matter contributes to nutrient and water holding capacities. Regular inputs of organic material foster a diverse microbial community that supports plant health and productivity.

Use the table on page 3 to document future changes in your farming operation that affect your Soil Conditioning Index. The following is an example entry:

Tract and field number(s)	Acres	Previous crop	Current crop	Tillage and planting equipment used to prepare for and plant the current crop	Number of passes with each implement	Timing of tillage and/or planting (month)
T 2360 F 1,2,4	100	beans	corn	<i>anhydrous</i>	1	Nov
				<i>no till planter</i>	1	April

Data for Calculating the Soil Conditioning Index

Tract and field number(s)	Acres	Previous crop	Current crop	Tillage and planting equipment used to prepare for and plant the current crop	Number of passes with each implement	Timing of tillage and/or planting (month)

Soil Conditioning Index (SCI) Data Certification

My signature certifies that these records accurately represent this CSP activity on my Ag operation.

CSP Participant Signature

Date